Appendix D

Review Checklist for Portable Gauge Application

This checklist can be used by the Agency staff to review applications and the applicant can use it to check for completeness.

1.a.

1.a Legal Name and Street address of Applicant (Institution, Firm, Person, etc.)

Applicant Name: _____

Address: _____

_____

City, State Zip +4: _____

Telephone #: _____

FAX #: _____

eMail Address:

1.b.

1.b Street address(es) at which Radioactive Material will be used. (If different than 1.a)

(1) Permanent Address: _____

_____

_____

City, State Zip+4: _____

(2) Temporary Job Sites Throughout Nebraska? ❒ Yes ❒ No

2.

2. Department to Use Radioactive Material

_____

Person to Contact:_____

Telephone #:_____

3.

3. This is an application for:

❒ New License

❒ Amendment to License No._____

❒ Renewal of License No._____

Item Number and Title	Suggested Response	YES	NO	OTHER	
				YES	NO
4. Individual User(s)	"The radiation safety officer will maintain documentation of training for authorized users and his/her approval of the authorized user."				
5. Radiation Safety Officer (RSO)	Radiation Safety Officer : _____ Name and Telephone Number _____				
	"The documentation for the training of the RSO are attached."				
	"The RSO will perform the duties and responsibilities of a RSO per Appendix E of Regulatory Guide 3.4 'Radioactive Material-Guidance for Portable Gauges and X-ray Fluorescence Analyzers." **Or** "Will provide alternate list of duties and responsibilities of the RSO per the criteria of Appendix E. **And** List is attached.				
6. Radioactive Material **6.a. Element and Mass Number** **6b. Chemical and/or physical form** **6c. Maximum amount to be possessed at any one time** **6d. Authorized use** **AND** **Manufacturer and model number of the gauging device**	List each radioisotope that will be used in the gauge or XRF Identify the manufacturer and model number of each sealed source that will be used in the gauge or XRF. Complete for each radioactive material requested. Indicate maximum activity per source Specify the purpose for the use of the gauging device. AND Identify the manufacturer and model number of the gauging device in which the sealed sources will be used. .				

6.

6.a. Element and Mass Number	6.b. Chemical or Physical form (Make and Model if sealed source)	6.c. Maximum Activity Requested (Expressed as Curies, Millicuries or Microcuries)	6.d. Use of Each Form (If sealed source, also give Make and Model Number of the storage and/or device in which sealed source will be stored and/or used)	Specify other uses not listed on SSD Certificate	YES	NO
Cesium-137	Sealed sources in compatible gauges as specified in Sealed Source and Device Registration Sheet	Not to exceed maximum activity per source as specified in Sealed Source and Device Registration Sheet	Measure Physical Properties of Materials	[}Not applicable [} Uses are:		
Americium-241	Sealed neutron sources in compatible gauges as specified in Sealed Source and Device Registration Sheet	Not to exceed maximum activity per source as specified in Sealed Source and Device Registration Sheet	Measure Physical Properties of Materials	[}Not applicable [} Uses are:		
Californium-252	Sealed neutron sources in compatible gauges as specified in Sealed Source and Device Registration Sheet	Not to exceed maximum activity per source as specified in Sealed Source and Device Registration Sheet	Measure Physical Properties of Materials	[}Not applicable [} Uses are:		
Other (specify						
FINANCIAL ASSURANCE REQUIRED AND EVIDENCE OF FINANCIAL ASSURANCE PROVIDED						

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
7. Training of Individuals in Item 4. And 5. **8. Experience with Radiation of Individuals in Item 4. And 5.**	"Authorized users and the radiation safety officer will demonstrated competency in use, maintenance and transfer of the device(s) by satisfactory completion eight(8) hour course -provided by the manufacturer of the gauge **Or** -agency approved course." **Note**: See Appendix I for course criteria **Note:** The licensee will need to maintain training records on file for each authorized user and will maintain records showing the approval by the RSO of the authorized users. This will be reviewed at the time of inspection. **Note**: Do not need to include names of Authorized Users or training records with application but must maintain then on file. Criteria for Acceptable Training Courses for Radiation Safety Officer/Portable Gauge				

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
ITEM 7 & 8 (CONTINUED)	Authorized Users See Appendix I of "Regulatory Guide 3.4 Radioactive Material Guidance for Portable Gauges and X-ray Fluorescence Analyzers" for Course Content, Course Examination and Course Instructor Qualifications Course Content Radiation Safety, Radiation Detection Instruments, State and Federal Regulations, Licensing and Inspections, Operating and Emergency Procedures, Transfer/Disposal Requirements, and Practical Training Course Examination 25- to 50-question written (closed book) test -- 70 percent grade Course Instructor Qualifications Bachelor's degree in a physical or life science or engineering with successful completion of both a portable gauge user course and 8-hour radiation safety course and 8 hours hands-on experience with portable gauges. **OR** An individual with the following training: Successful completion of portable gauge user course Successful completion of 40-hour radiation safety course 30 hours of hands-on experience with				
9. Radiation Detection Instruments	"We will possess and use a radiation survey meter that meets the criteria in the section entitled 'Radiation Detection Instruments' in Regulatory Guide 3.4, 'Radioactive Material – Guidance for Portable Gauges and X-ray Fluorescence Analyzers' in the event of an incident " **Optional Response** "We have access to a radiation survey meter that meets the criteria in the section entitled 'Radiation Detection Instruments' in Regulatory Guide 3.4, 'Radioactive Material –Guidance for Portable Gauges and X-ray Fluorescence Analyzers' in the event of an incident " Have a plan of how an instrument will be obtained.				

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
10. Calibration of Instruments Listed in Item 10 a. Calibrated by Service Company **10. Calibration of Instruments Listed in Item 10 b. Calibrated by Applicant**	"We will possess a survey meter and will have the instrument calibrated annually. The calibration service company's, name, address, license number and the state or federal agency that issued the company's license is provided below." Name_____ Address_____ _____ _____ License number_____ Issuing Agency_____ **Optional Response** "We will calibrate the survey instruments in-house annually. We have submit detailed information describing the facilities, equipment, personnel, and procedures to be used to perform the calibrations." **Note:** Contact the Agency for criteria for in house calibrations.				
11. Personnel Monitoring Devices	" We will provide dosimetry processed and evaluated by a NVLAP approved processor that is exchanged at a frequency recommended by the processor." "We will be using the following type: ❒ Film Badge ❒ TLD ❒ OSL ❒ Other (Specify) _____ The supplier is: _____ The exchange frequency is: ❒ Monthly ❒ Quarterly ❒ Other (Specify) _____ _____" **Or** "We will maintain, for inspection by the Agency, documentation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10 percent of the allowable limits of 180 NAC 4" **Note**: See Appendix K for guidance on demonstrating that unmonitored individuals are not likely to exceed 10 percent of the allowable limits.				

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
12. Facilities and Equipment	"A diagram of the permanent gauge storage facility is attached." **Note:** The diagram identifies all entrances and points of access, rooms, uses of the room, the location of the gauge storage area, and its distance from occupied work area. See Appendix N for an example diagram and a form.				
	"We will store the device(s) in a locked enclosure such as the transport vehicle, store room closet, shed, etc., in a way that will prevent access by unauthorized persons."				
13. Radiation Protection Program **13a. Operating and Emergency Procedures**	"We have implemented and will maintain operating and emergency procedures in Appendix F Regulatory Guide 3.4 "Radioactive Material Guidance for Portable Gauges and X-ray Fluorescence Analyzers." "Copies of these procedures will be provided to all authorized users and at each job site." (A copy of these Operating and Emergency Procedures will be copied from Regulatory Guide 3.4. The information to individualize the procedure will be completed.) **Optional Response** "We have implemented and will maintain operating and emergency procedures submitted with this application. They met the criteria of section titled Radiation Protection Program – Operating and Emergency Procedures in Regulatory Guide 3.4 "Radioactive Material Guidance for Portable Gauges and X-ray Fluorescence Analyzers.". Copies of these procedures will be provided to all authorized users and at each job site."				

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
13. Radiation Protection Program **13b. Leak Tests**	"Leak tests will be performed at intervals approved by the Agency, an Agreement State, or the U.S. Nuclear Regulatory Commission and specified in the Sealed Source and Device Registration Sheet." _____ " Leak tests will be performed by an organization authorized by the Agency, an Agreement State or the U.S. Nuclear Regulatory Commission to provide leak testing services for other licensees and/or using a leak test kit supplied by an organization authorized by the Agency, an Agreement State or U.S. Nuclear Regulatory Commission to provide leak test kits to other licensees and according to the kit supplier's instructions." Name of licensee and license # performing maintenance:_____ **And/Or** Supplier of leak test kit, model number of kit, and suppliers address. **Optional Response** "The licensee may be authorized to conduct the leak test and analysis by the Agency." The licensee will be required to provide the following to support a request to conduct the leak test and analysis. • Identify the individual who will make the analysis and provide his or her qualifications to make quantitative measurements of radioactivity. • Commit to performing leak testing at the frequency specified in the appropriate SSD Registration Certificate. • Specify how and where test samples will be taken on the gauge. Describe materials used and methods of handling samples to prevent or minimize exposure to personnel. • Specify the type of instrument(s) that will be used for measurement, the counting efficiency, and minimum levels of detection for each radionuclide to be measured. ***Note:*** An instrument capable of making quantitative measurements should be used; hand-held survey meters will not normally be considered adequate for measurements. • Specify the standard sources used to calibrate the instrument; for each, specify the radionuclide, quantity, accuracy, and traceability to primary radiation standards. ***Note:*** Accuracy of standards should be within ±5% of the stated value and traceable to a primary radiation standard such as those maintained by the National Institutes of Standards and Technology (NIST).				

Item Number and Title	Suggested Response	APPLICANT'S RESPONSE			
		YES	NO	OTHER	
				YES	NO
13.Radiation Protection Program **13c. Maintenance**	ROUTINE CLEANING & LUBRICATION "We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's recommendations and instructions."				
	NON-ROUTINE MAINTENANCE "We will send the gauge to the manufacturer or other person authorized by the NRC or an Agreement State to perform non-routine maintenance or repair operations that require the removal of the source or source rod from the gauge." **Optional Response** "We will provide needed information to support request to perform non-routine maintenance per Appendix J of Regulatory Guide 3.4 "Radioactive Material Guidance for Portable Gauges and X-ray Fluorescence Analyzers."				
13. Radiation Protection Program **13d. Transportation**	The applicant is not required to submit a response to the public dose section during the licensing phase. This matter will be examined during an inspection.	Need not be submitted with application			
13.Radiation Protection Program **13e. Audit Program**	"We will have an audit program." **Note:** See Appendix O for a sample audit program. The audit program will be reviewed during an inspection.				
13.Radiation Protection Program **13f. Material Receipt and Accountability**	"Physical inventories will be conducted at intervals not to exceed 6 months, to account for all sealed sources and devices received and possessed under the license." **Note:** See Appendix Q for a inventory procedure, Appendix R for sample inventory form and Appendix P for a utilization log. These items will be reviewed during an inspection. **Or** A description of the frequency and procedures for ensuring that no gauge has been lost, stolen, or misplaced and that, if the licensee possesses gauges exceeding threshold amounts, the licensee complies with financial assurance requirements in 180 NAC 3-018.				
13. Radiation Protection Program **13g. Public Dose**	The applicant is not required to submit a response to the public dose section during the licensing phase. This matter will be examined during an inspection.	Need not be submitted with application.			
14. Waste Disposal	State that disposal will be by transfer of the radioactive material to a licensee specifically authorized to possess it.	Need not be submitted with application			
15. Certification	Signed by representative authorized to make binding commitments..				